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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,759	03/31/2004	Jeffrey Wayne Eberhard	132360-1/YOD GERD:0057	5265
7590	02/15/2006		EXAMINER THOMAS, COURTNEY D	
Patrick S. Yoder Fletcher Yoder, P.C. P.O. Box 692289 Houston, TX 77269-2289			ART UNIT 2882	PAPER NUMBER

DATE MAILED: 02/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,759

Applicant(s)

EBERHARD ET AL.

Examiner

Courtney Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The affidavit filed on 12/12/05 under 37 CFR 1.131 is sufficient to overcome the Claus et al. reference (U.S. Patent 6,707,878).

Response to Arguments

2. Applicant's arguments, see pp. 7-9, filed 12/12/05, with respect to the rejection(s) of claim(s) 1-25 under 35 USC 102 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference to U.S. Patent Application Publication 2002/0085681 to Jensen et al. (now U.S. Patent 6,666,579).

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the imaging system comprising a plurality of sources (see claims 7-8 and 22-25) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5-9 and 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al. (U.S. Patent Application Publication 2002/0085681).

6. **As per claims 1 and 2**, Jensen et al. disclose a method for generating a three-dimensional dataset, the method comprising the acts of: acquiring a plurality of projection images from different locations on an arbitrary imaging trajectory; reconstructing the plurality of projection images to form a three-dimensional dataset and visualizing a selected volume (Abstract; paras. [0009-0010]).

7. **As per claims 5-9 and 22-25**, Jensen et al. disclose a method further comprising: emitting X-rays from one or more X-ray sources at a plurality of locations on the arbitrary imaging trajectory; and generating at least one projection image corresponding to each location from which X-rays are emitted ((Abstract; paras. [0009-0010]; Fig. 8).

8. **As per claim 17**, Jensen et al. disclose an apparatus comprising means for acquiring a plurality of projection images from different locations on an arbitrary imaging trajectory; and means for reconstructing the plurality of projection images to form a three-dimensional dataset ((Abstract; paras. [0009-0010]; Figs. 1, 6).

9. **As per claims 18-21**, Jensen et al. disclose an apparatus comprising: an X-ray source (36) configured to move along an arbitrary imaging trajectory; a positioner (12) configured to move at least the X-ray source; a system controller configured to operate the X-ray source (14); a detector (34) configured to detect X-rays emitted by the X-ray source at different locations (50) on the arbitrary imaging trajectory and to generate signals in response to the detected X-rays; and a detector interface configured to acquire the signals from the detector (para. [0032]); a reconstruction workstation (16) and a picture archiving system (16,48).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (U.S. Patent Application Publication 2002/0085681) in view of Hsieh et al. (U.S. Patent 6,574,304).

12. **As per claims 3 and 4**, Jensen et al. do not explicitly disclose a method comprising the step of processing at least one of the plurality of projection images, three dimensional dataset and a volume subset of the three dimensional dataset using a CAD (computer aided diagnosis (or

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detection)) algorithm or processing at least one of the plurality of projection images, three dimensional dataset and a volume subset of the three dimensional dataset prior to processing by a CAD algorithm or visualization.

13. Hsieh et al. teach the processing of projection images to generate three-dimensional datasets for improved analysis of radiographs for diagnostic purposes. Hsieh et al. suggest that the acquisition of projection slices enables the generation of volumetric information, as selected by an operator to assist in visualization. Furthermore, Hsieh et al suggest the use of CAD algorithms for additional analysis (see Abstract; column 1- column 2).

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Jensen et al. such that it incorporated the step of processing at least one of the plurality of projection images, three dimensional dataset and a volume subset of the three dimensional dataset prior to and/or subsequent using a CAD (computer aided diagnosis (or detection)) algorithm. One would have been motivated to make such a modification for the purpose of obtaining improved analysis of radiographs to render more accurate diagnosis as suggested by Hsieh et al. (see Abstract; column 1- column 2).

15. Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (U.S. Patent Application Publication 2002/0085681).

16. **As per claims 10-16**, Jensen et al. disclose a method as recited in claim 1, but do not explicitly disclose a tangible, machine readable media comprising code to cause an apparatus to acquire a plurality of projection images and to reconstruct the plurality of projection images to form a three-dimensional dataset.


17. It would have been obvious to one having ordinary skill in the art at the time the invention was made modify the method of Jensen et al. such that it incorporated the step of providing a tangible, machine readable media comprising code to cause an apparatus to acquire a plurality of projection images and to reconstruct the plurality of projection images to form a three-dimensional dataset. One would have been motivated to make such a modification for the purpose of causing an apparatus to automatically obtain data and to perform image processing techniques without the aid of a human operator for fast, reliable diagnosis or obtained radiographs as suggested by Jensen et al. (Abstract; paras. [0009-0010]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Courtney Thomas
Examiner
Art Unit 2882